

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim 3 has been cancelled, and the claims have been amended for clarity.

The Examiner has rejected claim 10 under 35 U.S.C. 101 in that the claimed invention is directed to non-statutory subject matter.

Claim 10 has been amended to indicate that the record carrier is in the form of a computer-readable medium. As such, Applicants believe that claim 10 is now statutory.

The Examiner has rejected claims 1-10 under 35 U.S.C. 102(b) as being anticipated by European Patent Application No. EP0831647 to Yamauchi et al.

The Yamauchi et al. patent discloses a multimedia optical disk on which audio data of a plurality of channels and sub-video data together with time-varying image data are recorded, and a device and method of reproducing the data. Yamauchi et al. discloses in column 8, line 31 to column 9, line 43 the data structure of the DVD. The data carrier of Yamauchi et al. has a volume area divided into a one-dimensional array of sectors, each sector having an address and having 2KB (2 kilobytes) - column 8, line 46. As indicated above, it is commonly known to sub-divide the carrier into a plurality of physical areas. Yamauchi et al. discloses that the file area stores at least a Video Title Set which stores a plurality of Video Objects (VOB) - column 9, lines 2

to 13. In Yamauchi et al., Fig. 4A and column 10, line 24 to column 11, line 30 describe that a VOB may comprise an elementary stream of moving picture data (video) and elementary streams of audio and sub-picture data. Each VOB may be considered to be a transport or multiplex stream, subdivided into blocks (VOBU's) of these elementary streams. The pieces of video, audio and sub-picture data within each VOBU have about the same time period (0.5 second). Each of these pieces is divided into 2KB packs (column 11, line 28). It could be argued that if the skilled person were to record the transport stream of Fig 4A of Yamauchi et al., onto the DVD of column 8, line 29 of Yamauchi et al., it could result in pieces of elementary audio and sub-picture data being physically separated by a piece of video data.

As noted in MPEP § 2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants submit that the subject invention, as claimed in claims 1, 8 and 10, differs from that disclosed in Yamauchi et al. In particular, the subject invention records pieces of auxiliary elementary information signals (such as elementary audio

and/or elementary sub-picture information signals) separated by at least one piece of a multiplex stream comprising a main information signal of a video information signal and a first auxiliary information signal.

As indicated above, the subject matter of claims 1, 8 and 10 is distinguished from Yamauchi et al. by "... writing in ... track of the record carrier in a first physical location ... a block of an auxiliary elementary stream file comprising a part ... having a specific presentation time; writing in a second physical location a subsequent block of the corresponding auxiliary elementary stream file; and writing in at least one location between the first and second physical location a block of the main multiplex stream file comprising a part ... having a presentation time which corresponds to the presentation time of the ... part ... to be written in the first physical location".

The effect is that, during playback, the time lost by jumping between the main file and the auxiliary files is small (page 8, lines 20-22). An objective problem is therefore to provide a method for recording a main multiplex stream file and auxiliary elementary stream files which improves the efficiency of during playback.

The subject invention, as claimed in claims 1, 8 and 10, solves this problem by generating a record carrier having parts of the main multiplex stream file and auxiliary elementary stream files physically interleaved on the disc. When the movie is then played back, only relatively small jumps have to be made as the

blocks of the respective files which comprises a part of the signal having a similar representation time are recorded in the track of the record carrier near to each other. As soon as one of the buffers is almost empty, a new block of the corresponding file has to be read. This new block will be near to the position of the last block read as this should have a part of the signal having a corresponding representation time. As only small jumps are needed, the reading unit doesn't waste a lot of time making jumps and may therefore read more efficiently information from the record carrier. This results in an increase of the effective bit-rate of reading unit. Due to this, the total bit-rate of the main multiplex transport stream and all auxiliary signals to be read can be much higher then when making large jumps. An additional advantage is that the buffer size of the respective buffers can be smaller, as the access time to the subsequent blocks to be read is smaller (page 6, line 14 to 32).

Applicants submit that Yamauchi et al. does not recognize this problem, and therefore cannot suggest a solution. Yamauchi et al. only teaches that a single transport stream may be created, comprising pieces of the elementary streams (Fig 4A). Yamauchi et al. teaches that this is an improvement in efficiency over the laser disc when a plurality of pieces of video data are to be recorded onto a single disc (column 2, lines 3 to 42). The improvement is achieved by storing a plurality of pieces of video data, wherein a piece of moving picture data and a plurality pieces

of sub-data are interleaved in each of the plurality pieces of video data, wherein the plurality pieces of sub-data are reproduced selectively and synchronized with the piece of moving picture data. Interleaving of elementary data is therefore performed within the transport stream.

Applicants submit that a skilled person faced with the problem of improving the efficiency would therefore experiment with the different parameters in Yamauchi et al., such as piece length, the number of sub-data pieces per piece of video data (some examples shown in Fig 4B), the pack size, etc. However, this teaches away from the subject invention.

Applicants further submit that if the skilled person were to employ common general knowledge to improve the efficiency during playback, that person would improve the mechanical characteristics of the playback equipment, providing faster response times and reducing jump times. However, applying to this general solution to Yamauchi et al. would not lead to the invention.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believes that this application, containing claims 1, 2 and 4-10, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by /Edward W. Goodman/
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611